

Stable Compositions for Nucleic Acid Amplification and Sequencing

Abstract

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The present invention is directed to compositions comprising mixtures of reagents, including thermostable enzymes (*e.g.*, thermostable DNA polymerases), buffers, cofactors and other components, suitable for immediate use in nucleic acid amplification or sequencing techniques without dilution or addition of further components. The compositions contain no stabilizing agents (*e.g.*, glycerol or serum albumin) and unexpectedly maintain activity for extended periods of time upon storage at temperatures above freezing. These compositions are useful, alone or in the form of kits, for nucleic acid amplification (*e.g.*, by the Polymerase Chain Reaction) and sequencing (*e.g.*, by dideoxy or "Sanger" sequencing), or for any procedure utilizing thermostable DNA polymerases in a variety of medical, forensic and agricultural applications. In particular, the compositions and methods are useful for amplifying and sequencing nucleic acid molecules that are larger than about 7 kilobases in size.

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